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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,161	07/24/2003	Amitabh Verma	128444-1	2511

6147 7590 07/05/2005

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
PATENT DOCKET RM. BLDG. K1-4A59  
NISKAYUNA, NY 12309

EXAMINER
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CHEN, VIVIAN

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,161

Applicant(s)

VERMA ET AL.

Examiner

Vivian Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 21-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/2004; 1/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-20, 29, drawn to a coated ferromagnetic particle, classified in class 428, subclass 403+
  - II. Claims 21-28, drawn to a method of making an article, classified in class 264, subclass 109+
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product. The coated particles can be used in binder-based coatings and fluids.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Mr. Rodriguez on 6/21/2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-20, 29. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

6. The amendment filed 1/21/2004 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the amendment in paragraph 0052 regarding green density.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-15, 20, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) LASHMORE ET AL (US 5,982,073); or

(b) LASHMORE ET AL (US 6,129,790); or

(c) LASHMORE ET AL (US 6,251,514); or

(d) LASHMORE ET AL (US 6,309,748).

The LASHMORE ET AL references each disclose coated ferromagnetic particles and articles formed therefrom, wherein the core particles comprise iron or an iron alloy (e.g., Fe-Si), having an average size of 40-600 microns, and are in a variety of forms (e.g., powder, flakes, fibers, etc.). The coating comprises an iron oxide ( $\text{Fe}_3\text{O}_4$ ) (e.g., magnetite) with a typical thickness of 50-5000 angstroms. (LASHMORE ET AL '073, line 33-45, col. 3; column 5) (see corresponding portions of other LASHMORE ET AL references)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a magnetite coating to ferromagnetic particles in order improve green strength, bonding, and heat resistance. One of ordinary skill in the art would have selected the geometry and size of the core particles (claims 6, 8-12) and the amount and coverage of the iron oxide coating (claim 14-15) depending on the magnetic, mechanical, and packing

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characteristics best suited for specific applications. It is well known in the art to use water atomization (claim 7) to form fine iron particulates.

9. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) LASHMORE ET AL (US 5,982,073); or

(b) LASHMORE ET AL (US 6,129,790); or

(c) LASHMORE ET AL (US 6,251,514); or

(d) LASHMORE ET AL (US 6,309,748),

as applied to claim 1,

and further in view of SOILEAU ET AL (US 4,601,765).

SOILEAU ET AL discloses that it is well known in the art to overcoat magnetic particles with silicate and silicone coatings in order to improve compacting and magnetic performance.

(lines 51-65, col. 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to overcoat the particles of LASHMORE ET AL with silicon-based coatings in order to molding and magnetic properties.

10. Claims 1-16, 20, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

GAY ET AL (US 6,193,903);

in view of LASHMORE ET AL (US 5,982,073).

GAY ET AL '903 discloses coated ferromagnetic particles having a first inorganic coating and an optional second polymeric coating, and articles formed therefrom, wherein the

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core particles comprise iron or an iron alloy (e.g., Fe-Si), having an average size of 5-1000 microns. The inorganic coating comprises an iron oxide ( $\text{Fe}_3\text{O}_4$ ) (e.g., magnetite) representing 0.001-1 wt% of the coated particle. The polymer coating overcoats the first iron oxide coating. (line 15, col. 2 to line 37, col. 3; line 37-55, col. 4; line 22-45, col. 5)

LASHMORE ET AL '073 discloses that it is well known in the art to coat ferromagnetic particles in a variety of shapes (e.g., flakes, fibers, etc). (LASHMORE ET AL '073, line 33-45, col. 3; column 5)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a magnetite coating and optionally a polymeric coating to ferromagnetic particles of various known shapes and sizes in order improve green strength, bonding, and heat resistance. One of ordinary skill in the art would have selected the geometry and size of the core particles (claims 6, 8-12) and the thickness and coverage of the iron oxide coating (claim 13, 15) depending on the magnetic, mechanical, and packing characteristics best suited for specific applications. It is well known in the art to use water atomization (claim 7) to form fine iron particulates.

11. Claims 1-8, 13-15, 20, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over: EUROPEAN PATENT APPLICATION 0 434 669 (hereinafter EP '669); in view of LASHMORE ET AL (US 5,982,073).

EP '669 discloses coated ferromagnetic particles and articles formed therefrom, wherein the core particles comprise iron or an iron alloy (e.g., Fe-Si), having an average size of 100

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microns or less. The coating comprises an iron oxide ( $\text{Fe}_3\text{O}_4$ ) (e.g., magnetite) with a typical thickness of less than 10 microns. (line 49-56, page 2; line 45, page 3 to line 56, page 4)

LASHMORE ET AL '073 discloses that it is well known in the art to coat ferromagnetic particles in a variety of shapes (e.g., flakes, fibers, etc). (LASHMORE ET AL '073, line 33-45, col. 3; column 5)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply a magnetite coating and optionally a polymeric coating to ferromagnetic particles of various known shapes and sizes in order improve green strength, bonding, and heat resistance. One of ordinary skill in the art would have selected the geometry and size of the core particles (claims 6, 8) and the amount and coverage of the iron oxide coating (claim 14-15) depending on the magnetic, mechanical, and packing characteristics best suited for specific applications. It is well known in the art to use water atomization (claim 7) to form fine iron particulates.



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*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 25, 2005



Vivian Chen  
Primary Examiner  
Art Unit 1773